

UNIVERSITY OF CALIFORNIA.

AGRICULTURAL EXPERIMENT STATION.

BULLETIN NO. 22.

University Seed Distribution.

Seeds of the kinds named below will be distributed by the College of Agriculture of the University of California to citizens of California.

Postage to the amount indicated should accompany every application.

Beyond this no charge is made. Persons applying should give their second and third choice, if the kind first named is all gone, or say that the enclosed stamps are to be returned after deducting postage on the return letter. The announcement of scions and plants to be distributed will be made later.

This distribution is made for the purpose of ascertaining the adaptation to climate and practical value of the several kinds, in the different climates and soils of the State; and persons receiving them are requested to report results, whether success or failure, and if the latter, from what apparent causes.

All applications are to be addressed to Prof. E. W. Hilgard, Berkeley, Alameda Co., Cal.

The following cereal grains are in one-pound packages; postage, 20 cents each.

Barleys.

Six-rowed Barley: A very different type from that commonly grown on this coast, and we believe that for some localities and uses it is much to be preferred. The arrangement and size of the grains in the head are such as to show six distinct rows, instead of the crowded appearance, which makes our common barley pass as four-rowed. The straw is of only moderate length, strong, and very erect, making it less liable to lodge than most other varieties. The yield is among the highest that we have recorded in our garden experiments. Last year, while in Colorado, we found that this type of barley had been accepted as best suited to that elevated plateau region. Our stock was raised from seed secured in the Brenner collection, imported from Europe, where the grain is also particularly valued for mountain lands. We commend this grain for a general trial, and in particular for the northern valleys of the State.

Rice, Sprat, or Battle-door Barley: In some respects there is a close resemblance between this variety and the last, as in its upright straw, heads of even height, and spreading beards. Straw very short. It has two rows of grain in a very short head, so that the beards stand in the form of a battle-door. The grain is said to swell when cooked, as rice does. The yield is fair, and the hardy plant adapted to mountain regions—an interesting variety.

Frick's Barley: An excellent grain of fine brewing grade. Head two-rowed, but more

compact and upright than the Chevalier. The plant is also said to be less affected by drought.

Scotch Two-rowed Barley: In a series of years this has proved to be a very superior grain, both in yield and quality, as well as in not lodging as badly as Chevalier. We have good reports from seed sent out in former years.

Imperial Two-rowed: Good, but not as well proved as some others.

Carter's Prolific: True to its name, this kind tillers a great deal, and bears a large number of heads of rather light grain. Adapted to the production of feed barley, or to sow for hay.

Nepaul, Bald, Spoon, or Pearl Barley: Having no harsh beards, and threshing out clean from the chaff, this is a curiosity to many farmers. As green forage, it is greatly relished by all domestic animals, including poultry. An excellent soiling crop. Hay made from it is the highest priced in this market. The plant is more subject to rust and attacks of aphids than common barley. The soil should be in good heart, and well tilled, and the crop sown the latter part of January, in this section.

Blue Barley: Although bearded, this is another of the smooth barleys, which lose their chaff in threshing. The grain is dark blue or purple, and the stem and foliage partake of the same color while growing. Reports from parties receiving seed from us state that hogs are very fond of the green plant, so that it should form good pasture for them.

St. John's Day Rye.

Heavy drooping heads. Broad near the stem and tapering towards the tip. Abundant fine beards. Acknowledged to be one of the best of known ryes. From seed imported from Erfurt, Germany.

Wheats.

Hallett's Pedigree White Victoria: Beardless, long, heavy heads, tapering towards the tips, crowded meshes, and white chaff. The grain is of medium size, and our crop of this year shows some kernels glutinous and some starchy, apparently changing to a white wheat, as often happens with imported varieties. It should be tried in other parts of the State.

Siberian Winter Wheat: Very slightly bearded near the tip of the head, which is slender, rather long and loose, and with a red chaff. The grains are rather long, light amber, with a tendency to become white.

Whittington Wheat: A favorite in England, and promising well here, when sown early; though, on our soil, becoming more starchy than the original seed imported by the University. Seed, long; and resembling the white Australian; should be tried on various soils.

Black-bearded Centennial: From seed received some years ago from the U. S. Department of Agriculture. A variety that has been widely disseminated and much praised. Its very tall and strong straw, large heads and long beard, which is black during growth, make a very showy crop. Our first experiments gave

the impression that the coarseness of the straw, and tendency to produce shrunken grain, would prevent this variety from becoming a popular one in this State. This year's grain shows a decided improvement, perhaps on account of early sowing, the kernels being very large and white, and fairly filled. As the combined harvesters, coming largely into use, make the quality of straw of little importance, if only it stands up well, this variety may yet be found of value in our great valleys.

California Spring Wheat: Received from Germany under this name, but not yet identified with any variety generally known here. It seems adapted to our climate. Head of medium length, compact, beardless, with white chaff. Grain this year rather small, soft, starchy and fairly even in size.

White Essex: Handsome, compact, beardless head, of medium size, with white chaff. Grain this year of very uneven quality, the best of rather large size, with wrinkled, whitish skin. It may do better elsewhere.

Mold's Red Winter: Shows an inclination to become light colored and starchy. Small grain, of pretty even size. Not suited to rusty sections.

White Silesian Spelt-Wheat: In the chaff. This type of wheat is prized in Europe for pastry, although the chaff must be removed by a process similar to that employed with rice. With us it has never made really plump grain, apparently wanting a longer season or a mountain climate. Our own experience, and that of others, indicates that its hardness and leafy growth would make it valuable as a hay crop, for which it could be sown in the chaff.

Oats.

It must be understood that Berkeley has not the soil and climate to produce most varieties of oats in perfection. The seed which we offer of the following kinds does not represent their qualities fairly, but may be of value to those more favorably situated.

Scotch Hoptoun: A noted white kind, one of the best, very good even with us.

Early August: White, promising.

Polish: Fairly good, but light. Well liked elsewhere.

Black Tartar:

Grasses.

Seeds of the three following grasses will be sent in 4-oz. packages; send 5 cents in stamps for each:

Schrader's brome grass (*Bromus Schraderii* or *unioloides*): Valued in Australia as resisting drought, and in Texas as giving good feed in winter and early spring. It is among the first

grasses to start, grows vigorously, and matures an abundance of heavy seeds. Its seed stems being two or three feet high, and root leave abundant, it can be used for either hay or pasture.

Hungarian brome grass (*Bromus inermis*): From seed imported by the University from Europe, commended by the French, as adapted to dry soils. Our experience indicates that it will do well here, either without or with moderate irrigation.

***Milium multiflorum*:** A perennial millet grass, which has no popular English name that we know of. Seed very fine, and plant of slow development, but strong. If kept down, there is an abundant growth of fine leaves, which resist winter frosts to a remarkable degree.

Angola Panic (*Panicum spectabile*): Frequently called "evergreen millet." Spreading rapidly by underground root stocks, this grass gives a very large amount of coarse but good forage. In the warmer parts of the State, with irrigation, enormous yields are reported. Frosts cut this grass to the surface of the ground, but it grows again as soon as warm weather returns. It should not be planted where permanent grass is not wanted. Pound packages of root-stocks, 20 cents.

To those afflicted with "Foxtail" or other undesirable grasses we specially commend a thorough trial of these four varieties, putting them in early, in the hope of smothering the bad ones.

Black Wattle.

***Acacia decurrens*,** the black wattle or tanbark acacia of Australia: The bark of this tree, as grown on the University grounds, contains, as heretofore stated (Bulletin No. 4) over 40 per cent of tannin when in the air-dried condition, while that of the oaks usually amounts to only 10 or 12. The tree is a rapid grower, and is usually stripped in its eighth to tenth year, when 30 to 40 feet high. Does well on heavy as well as on light soils, provided they are deep; is doubtless hardy from Sacramento southward, possibly farther north on light soils. The seed is very hard and should be soaked well in warm water until softened, before sowing, otherwise it may be in the ground a year before coming up. Ounce packages, two cents each.

Insect Powder Plants.

***Pyrethrum cinerariaefolium* and *P. roseum*,** the Dalmatian and Persian insect powder plants: The former is the one most to be recommended as an insecticide, while the latter is quite ornamental, having flowers resembling single chrysanthemums, of four or five different colors. Half ounce packages, two cents each.

C. H. DWINELLE.

Berkeley, Nov. 15, 1884.